

IUBMB Enzyme Nomenclature

EC 3.1.1.74

Common name: cutinase

Reaction: cutin + H₂O = cutin monomers

Systematic name: cutin hydrolase

Comments: Cutin, a polymeric structural component of plant cuticles, is a polymer of hydroxy fatty acids that are usually C₁₆ or C₁₈ and contain up to three hydroxy groups. The enzyme from several fungal sources also hydrolyses the *p*-nitrophenyl esters of hexadecanoic acid. It is however inactive towards several esters that are substrates for non-specific esterases.

Links to other databases: [BRENDA](#), [EXPASY](#), [KEGG](#), [WIT](#), CAS registry number:

References:

1. Garcia-Lepe, R., Nuero, O.M., Reyes, F. and Santamaria, F. Lipases in autolysed cultures of filamentous fungi. *Lett. Appl. Microbiol.* 25 (1997) 127-130. [Medline UI: [97426685](#)]
2. Purdy, R.E. and Kolattukudy, P.E. Hydrolysis of plant cuticle by plant pathogens. Purification, amino acid composition, and molecular weight of two isoenzymes of cutinase and a nonspecific esterase from *Fusarium solani* f. *pisi*. *Biochemistry* 14 (1975) 2824-2831. [Medline UI: [76000309](#)]
3. Purdy, R.E. and Kolattukudy, P.E. Hydrolysis of plant cuticle by plant pathogens. Properties of cutinase I, cutinase II, and a nonspecific esterase isolated from *Fusarium solani pisi*. *Biochemistry* 14 (1975) 2832-2840. [Medline UI: [76000310](#)]

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